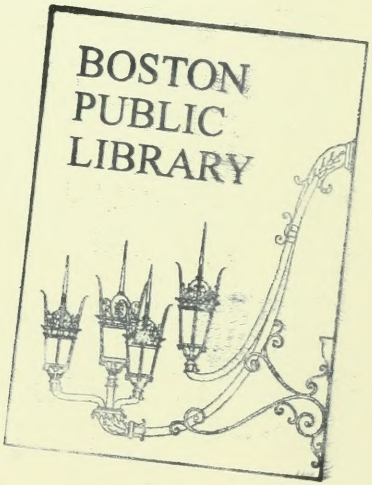
HYNES AUDITORIUM EXPANSION
BOSTON, MASSACHUSETTS

Final Report (Volume III)

Cost Analysis



CITY OF BOSTON
Kevin H. White, Mayor

BOSTON REDEVELOPMENT AUTHORITY
Robert J. Ryan, Director

PUBLIC FACILITIES DEPARTMENT
Donald B. Manson, Director

KALLMANN, McKINNELL & WOOD, ARCHITECTS, INC. 127 TREMONT STREET BOSTON MASS. 02108 617-482-5745

INTRODUCTION

At the request of the Boston Redevelopment Authority, Kallmann, McKinnell & Wood, Architects, Inc. have put together the following Supplement to the Cost Analysis portion of the Final Report. Using figures furnished by Perez Associates(t), Hanscomb, and the Boston Redevelopment Authority (*), the Architects have attempted to identify those costs associated with the Hynes Auditorium Expansion.

Given the preliminary level of development and the transition from City to State, the figures provided are subject to further refinement pending a more detailed account of the Scope of Work by the State.

Also provided in this Supplement is a Table of Construction Costs in which the Hynes is compared to other convention facilities. The Table clearly indicates that the $108/sq. ft. construction cost of the Hynes Auditorium Expansion is less than one-half the cost of two of the highest quality and most expensive facilities, Baltimore and San Francisco, with whom the Hynes must be able to compete.

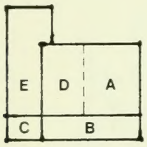
GERHARD M. KALLMANN FAIA ARIBA NOEL MICHAEL McKINNELL FAIA HENRY A. WOOD AIA HANS J. HUBER

HYNES AUDITORIUM EXPANSION - PROJECT COST SUMMARY

I. PRE-CONSTRUCTION ACTIVITIES:

Acquisition of Prudential Property (65,886 s.f.)	$4,000,000*
Relocation Costs (10 Businesses)	1,500,000*
Total Pre-Construction Cost:	$ 5,500,000

II. CONSTRUCTION COSTS:



Base Building Costs under the following assumptions:

- Lump Sum/Competitive Bid Contract
- 27 Month Shutdown of Hynes
- 10% Contingency for New Construction
- Today's Dollars

	AREA	$/S.F.	TOTAL
A. Renovation of Existing Facility	355,800 s.f.	60.42	$21,498,000
B. New Construction within Property Line	130,200 s.f.	118.38	15,413,000
C. New Construction in front of Commercial Block "C"	79,300 s.f.	157.10	12,458,000
D. New Construction on Roof of Hynes	56,400 s.f.	249.86	14,092,000
E. Demolition and New Construction in Commercial Block "C" and West Court	79,800 s.f.	157.52	12,570,000
Total Base Construction Cost in Today's Dollars:			$76,031,000
16 Month Escalation at 10% per Year:			10,112,000
TOTAL Base Construction (Start November 1983):			$ 86,143,000
Options for Alternate Forms of Construction:			
Phasing Premium (to keep facility in operation during a 39 month construction period):			$ 6,970,000
Premium(Min. 5%)Using Construction Management:			4,656,000
Total Building Construction with Options:			$ 97,769,000
FF&E(Furniture, Fixtures & Equipment) and Inflation:			$ 4,752,000†
Total Construction Cost with Options and FF&E:			$102,521,000

III. DEVELOPMENT COSTS:

Architect/Engineering Fees	$ 7,000,000
Supplementary Services	1,000,000
Investigations, Studies, Miscellaneous	1,000,000
Accounting, Insurance,Legal Fees and Performance Bond	1,500,000*
Testing Labs	300,000
Financial Fees	2,500,000*
Total Development Costs;	$ 13,300,000
Total Project Cost:	$121,321,000

HYNES AUDITORIUM EXPANSION
CONVENTION CENTER COST COMPARISON
(Figures Provided By Perez Associates)

FACILITY	COST	DATE	ESCALATED TO SEPT., 1982	GROSS SQ. FT.	COST/SQ.FT. WHERE CONSTRUCTED	COST/SQ.FT. ADJUSTED TO BOSTON
Baltimore	$ 50,000,000	1976	$75,600,000	385,000	$196.36	$225.81
San Francisco	99,000,000	1978	157,500,000	650,000	242.31	210.81
Anaheim I	8,000,000	1974	17,900,000	135,000	132.59	125.96
Anaheim II	18,000,000	1981	18,900,000	150,000	126.00	119.70
New York	220,000,000	1981	231,000,000	1,750,000	132.00	120.12
Dallas (Add'n)	31,000,000	1982	32,600,000	300,000	108.67	119.54
Hynes			76,031,000	701,500	108.38	108.38
Washington	67,000,000	1980	77,700,000	800,000	97.13	104.90
New Orleans	69,000,000	1981	72,500,000	820,000	88.41	106.09
Atlanta I	32,000,000	1974	60,200,000	720,000	83.61	100.33
Atlanta II	74,000,000	1981	77,700,000	1,100,000	70.64	84.77
Las Vegas (Add'n)	10,000,000	1981	10,500,000	130,000	80.77	84.00

HYNES AUDITORIUM EXPANSION:

Renovation	$21,498,000	355,800 sq. ft.	=	$ 60.42/sq. ft.
New Construction	54,533,000	345,700 sq. ft.	=	157.75/sq. ft.
	$76,031,000	701,500 sq. ft.	=	$108.00/sq. ft.

CONTENTS

INTRODUCTION

This estimate has been prepared by Hanscomb Associates Inc from the preliminary drawings (seven sheets) dated October, 1982 together with reports from the structural, mechanical, electrical, programming, soils and code consultants.

The estimate is based upon approximate quantities measured from the drawings together with allowances for those sections of the work which are as yet undefined. The estimate assumes the following:

- The project will be competitively bid.
- Construction period of twenty-seven months.
- A single contract will be let for the entire works.

Items not included are:

- Escalation (the estimate reflects prices current at February 1983).
- Phasing costs.
- Consultants fees.
- Administrative costs.

In addition to the estimated construction cost, February 1983 (see Main Summary P.) escalation has been calculated based upon a construction period of twenty-seven months commencing November 1, 1983 and using a rate of 10% per annum.

The estimated premium for constructing the project in three phases lasting a total of thirty-nine months has also been calculated.

MAIN SUMMARY

A. RENOVATION OF EXISTING FACILITY	$21,498,000
B. NEW CONSTRUCTION WITHIN PROPERTY LINE	15,413,000
C. NEW CONSTRUCTION IN FRONT OF COMMERCIAL BLOCK "C"	12,458,000
D. NEW CONSTRUCTION ON ROOF OF HYNES	14,092,000
E. DEMOLITION OF NEW CONSTRUCTION IN COMMERCIAL BLOCK "C" AND WEST COURT	12,570,000
TOTAL BASE CONSTRUCTION COST IN TODAY'S DOLLARS	$76,031,000
16 MONTH ESCALATION AT 10% PER YEAR	10,112,000
TOTAL BASE CONSTRUCTION COST	$86,143,000

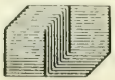
OPTIONS

PHASING PREMIUM (TO KEEP FACILITY IN OPERATION DURING A 39MONTH CONSTRUCTION PERIOD)	6,970,000
PREMIUM FOR USING CONSTRUCTION MANAGEMENT 5%	4,656,000
TOTAL BUILDING CONSTRUCTION WITH OPTIONS	$97,769,000
FF&E (FURNITURE, FIXTURES AND EQUIPMENT)	4,752,000
TOTAL CONSTRUCTION COST	$102,521,000

Cost Analysis
Renovation of Existing Facility

Project: RENOVATION OF EXISTING FACILITIES | Cost Plan/Cost Check No: | Date: | Sheet No: 3

Uniformat Element	Amount $	Total Cost $	Rate $/SF Floor Area	%	Comments
01 – Foundations		100,000	0.28		
011 – Standard foundations					
012 – Special foundation conditions					
02 – Substructure		--			
021 – Slab on grade					
022 – Basement excavation					
023 – Basement walls					
03 – Superstructure		702,000	1.97		
031 – Floor construction	642,000				
032 – Roof construction					
033 – Stair construction	60,000				
04 – Exterior closure		1,018,000	2.86		
041 – Exterior walls	1,018,000				
042 – Exterior doors and windows					
05 – Roofing		952,000	2.68		
06 – Interior construction		3,301,000	9.28		
061 – Partitions	1,038,000				
062 – Interior finishes	1,745,000				
063 – Specialties	518,000				
07 – Conveying systems		310,000	0.87		
08 – Mechanical		6,117,000	17.19		
081 – Plumbing	822,000				
082 – HVAC	4,548,000				
083 – Fire protection	747,000				
084 – Special mechanical systems					



Project: RENOVATION OF EXISTING FACILITIES | Cost Plan/Cost Check No: | Date: | Sheet No: 4

Uniformat Element	Amount $	Total Cost $	Rate $/SF Floor Area	%	Comments
09 — Electrical		3,470,000	9.75		
091 — Service and distribution) 092 — Lighting and power) 093 — Special electrical systems)	3,470,000				
10 — General conditions and profit		1,977,000	5.56		
Net Building Cost		17,947,000	50.44		
11 — Equipment					
111 — Fixed and movable equipment 112 — Furnishings 113— Special construction					
12 — Site work		747,000	2.10		
121 — Site preparation 122 — Site improvements 123 — Site utilities 124 — Off-site work	747,000				
13 — Contingencies		2,804,000	7.88		
131 — Design 15% 132 — Escalation 133 — Construction	2,804,000				
TOTAL ESTIMATED CONSTRUCTION COST, FEBRUARY 1983		$ 21,498,000	$60.42		GROSS FLOOR AREA 355,800 SF

THE CITY OF BOSTON

CONSTRUCTION COST ESTIMATE Sheet No. 5

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST		TOTAL COST
	02 SUBSTRUCTURE					
	A. Renovation of Existing Facilities					
	Foundation modifications (Transfer beams) for 20 additional columns supporting new auditorium floor		Allow			100,000
	TOTAL					100,000

CONSTRUCTION COST ESTIMATE

Sheet No. 6

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION 03 SUPERSTRUCTURE	UNIT	QUANTITY	UNIT COST					TOTAL COST
	A. Renovation of Existing Facilities								
	031/032 Floor/Roof Construction								
	Structural Steel floor Framing @ auditorium (El. 54'-10")	SF	29,184	11	90				346,290
	Structural Steel floor Framing to mechanical Floor (El 54'-10"	SF	5,760	11	90				68,544
	Metal Deck concrete fill floor	SF	34,944	4	00				139,776
	Steel Framing and decking over orchestra pit	SF	2,700	17	00				45,900
	Framing @ stair shafts (2 EA. El. 54'-10")		Allow						30,000
	Spray fireproofing to Structural Steel		Allow						10,000
	TOTAL								641,510

CONSTRUCTION COST ESTIMATE

Sheet No. 7

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
	03 SUPERSTRUCTURE (cont'd)				
	A. Renovation of Existing Facilities				
	033 - Stair Construction				
	Stair Construction		ALLOW		60,000
	TOTAL				60,000

CONSTRUCTION COST ESTIMATE

Sheet No. 8

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION 04 EXTERIOR CLOSURE	UNIT	QUANTITY	UNIT COST					TOTAL COST
	A. Renovation of Existing Facilities								
	Exterior wall treatment along south and west facades of existing building; masonry	SF	67,840	15	00				1,017,600
	TOTAL								1,017,600

THE CITY OF BOSTON

CONSTRUCTION COST ESTIMATE Sheet No. 9

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST			TOTAL COST
	05 ROOFING						
	A. Renovation of Existing Facilities						
	IRMA Roofing System	SF	136,000	7	00		952,000
	TOTAL						952,000

CONSTRUCTION COST ESTIMATE

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST			TOTAL COST
	06 INTERIOR CONSTRUCTION						
	A. Renovation of Existing Facilities						
	061 Partitions						
	Interior partitions and doors to:						
	Meeting space	SF	12,000	5	00		60,000
	Exhibition space	SF	170,800	1	50		256,200
	Support space	SF	139,900	3	50		489,650
	Prefunction and circulation space	SF	33,100	7	00		231,700
	TOTAL						1,037,550

THE CITY OF BOSTON

CONSTRUCTION COST ESTIMATE Sheet No. 11

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
	06 INTERIOR CONSTRUCTION				
	A. Renovation of Existing Facilities				
	062 Interior Finishes				
	Interior Finishes to:				
	Meeting space	SF	12,000	8 00	96,000
	Exhibition space	SF	178,000	2 50	427,000
	Support space	SF	139,900	4 00	559,600
	Prefunction and circulation space	SF	33,100	20 00	662,000
	TOTAL				1,744,600

CONSTRUCTION COST ESTIMATE Sheet 12

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION 06 INTERIOR CONSTRUCTION	UNIT	QUANTITY	UNIT COST			TOTAL COST
	A. Renovation of Existing Facilities						
	063 Specialties						
	Specialities to:						
	Meeting space	SF	12,000	2	00		24,000
	Exhibition space	SF	170,800	1	50		256,200
	Support space	SF	139,900	0	75		104,925
	Prefunction and circulation space	SF	33,100	4	00		132,400
	TOTAL						517,525

CONSTRUCTION COST ESTIMATE Sheet No. 13

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION 07 CONVEYING SYSTEMS	UNIT	QUANTITY	UNIT COST	TOTAL COST
	A. Renovation of Existing Facilities				
	4,500 lb. capacity hydraulic service elevator; 150 FMP; 4 stop	EA	1		90,000
	4,000 lb. capacity geared passenger elevator; 350 FPM; 3 stop	EA	1		80,000
	Overhaul existing elevators (5 EA)		Allow		100,000
	Overhaul existing elevators (2 EA)		Allow		40,000
	TOTAL				310,000

CONSTRUCTION COST ESTIMATE

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT: ___

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim ___
Final ___

DATE: FEBRUARY 18, 1983

VOLUME C.F. ___

LINE NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST		TOTAL COST
	A. Renovation of Existing Facility					
	MECHANICAL SUMMARY					
	Plumbing					822,250
	Fire Protection					746,925
	HVAC					4,548,250
	TOTAL MECHANICAL					6,117,425

CONSTRUCTION COST ESTIMATE Sheet No. 15

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST					TOTAL COST
	A. Renovation of Existing Facility								
	Plumbing								
	Replace Fixtures	EA	200	500					100,000
	Piping - Replace or new	LS							200,000
	Storm Piping for Addition	LS							100,000
	House Pumps	Set	1	25,000					25,000
	Sewer Pumps Duplex	EA	1	25,000					25,000
	Air Compressor	LS							50,000
	Insulation	LS							50,000
	Cutting & Core Drilling	LS							50,000
	Kitchen Piping & Connections	LS							100,000
	New H.W. Heater	EA	1	15,000					15,000
	Subtotal								715,000
	Overhead & Profit 15%								101,250
	TOTAL PLUMBING								822,250

CONSTRUCTION COST ESTIMATE

Sheet No. 16

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST					TOTAL COST
	A. Renovation of Existing Facility								
	Fire Protection								
	Sprinkler Heads	EA	2,700	175					472,500
	Standpipe	LS							100,000
	Fire Hose Valves & Cabinet	LS							25,000
	Siamese Connection								2,000
	Fire Pump	EA	1	50,000					50,000
	Subtotal								649,500
	Overhead & Profit 15%								97,425
	TOTAL FIRE PROTECTION								746,925

CONSTRUCTION COST ESTIMATE Sheet No. 17

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
	A. Renovation of Existing Facility				
	HVAC				
	New Steam PRS	EA	1	50,000	50,000
	Condensate Pump	LS			10,000
	Steam Specialties	LS			5,000
	Heat Exchangers	LS			25,000
	Air Seperators	LS			2,500
	Expansion Tanks	LS			2,500
	Incinerators	LS			250,000
	Terminal Equipment	LS			75,000
	A.H. Equipment	LS			500,000
	Piping & Rough Materials	LS			750,000
	Air Distribution Sheet Metal with all acces.	LS			1,600,000
	Demolition	LS			100,000
	Cutting & Core Drilling	LS			50,000
	Auto Temp. Control	LS			500,000
	Air & Water Balance	LS			35,000
	Subtotal				3,955,000
	Overhead & Profit 15%				593,250
	TOTAL HVAC				4,548,250

CONSTRUCTION COST ESTIMATE Sheet No. 18

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

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DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST					TOTAL COST
	A. Renovation of Existing Facilities								
	Main Elec Service & Dist.								1,300,000
	EM. Generator								20,000
	Power								820,000
	Lighting								560,000
	Phone								150,000
	Fire Alarm								165,000
	Radio & TV Master Antenna								12,000
	Clock System								75,000
	Sound Paging System								90,000
	Wireless Paging								70,000
	Security Assistance System								3,000
	Intrusion Alarm & Video System								200,000
	Exterior Door Intercom System								5,000
	TOTAL								3,470,000

CONSTRUCTION COST ESTIMATE

Sheet No. 19.

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
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DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
	12 SITEWORK				
	A. Renovation of Existing Facilities				
	121 Site Preparation				
	Demolition				
	Remove balcony and concrete structure at El. 61'-6"	SF	11,100	8.00	88,800
	Remove exterior facade	SF	16,648	3.00	49,944
	Remove interior finishes				
	Lower level	SF	83,100	0.50	41,550
	Street level	SF	8,100	1.00	8,100
	Main level	SF	132,300	2.00	264,600
	Second level	SF	103,100	2.00	206,200
	Remove escalators	EA	2	10,000.00	20,000
	Remove roof covering	SF	136,000	0.50	68,000
	TOTAL				747,194

Cost Analysis

New Construction Within Property Line

Project: NEW CONSTRUCTION WITHIN PROPERTY LINE	Cost Plan/Cost Check No: Date: FEBRUARY 18, 1983	Sheet No: 20

Uniformat Element	Amount $	Total Cost $	Rate $/SF Floor Area	%	Comments
01 — Foundations		502,000	3.86		
011 — Standard foundations					
012 — Special foundation conditions	502,000				
02 — Substructure		904,000	6.94		
021 — Slab on grade					
022 — Basement excavation	782,000				
023 — Basement walls	122,000				
03 — Superstructure		2,278,000	17.50		
031 — Floor construction)	2,218,000				
032 — Roof construction)					
033 — Stair construction	60,000				
04 — Exterior closure		2,467,000	18.95		
041 — Exterior walls)	2,467,000				
042 — Exterior doors and windows)					
05 — Roofing		346,000	2.66		
06 — Interior construction		4,340,000	33.33		
061 — Partitions	992,000				
062 — Interior finishes	2,883,000				
063 — Specialties	465,000				
07 — Conveying systems		480,000	3.69		
08 — Mechanical		967,000	7.43		
081 — Plumbing	121,000				
082 — HVAC	719,000				
083 — Fire protection	127,000				
084 — Special mechanical systems					

Project: NEW CONSTRUCTION WITHIN PROPERTY LINE

Cost Plan/Cost Check No:

Date: FEBRUARY 18, 1983

Sheet No: 21

Uniformat Element	Amount $	Total Cost $	Rate $/SF Floor Area	%	Comments
09 — Electrical		500,000	3.84		
091 — Service and distribution)					
092 — Lighting and power)	500,000				
093 — Special electrical systems)					
10 — General conditions and profit		1,165,000	8.95		
Net Building Cost		13,949,000	107.14		
11 — Equipment					
111 — Fixed and movable equipment					
112 — Furnishings					
113— Special construction					
12 — Site work		63,000	0.48		
121 — Site preparation	63,000				
122 — Site improvements					
123 — Site utilities					
124 — Off-site work					
13 — Contingencies		1,401,000	10.78		
131 — Design 10%	1,401,000				
132 — Escalation					
133 — Construction					
TOTAL ESTIMATED CONSTRUCTION COST, FEBRUARY 1983		$ 15,413,000	$ 118.38		GROSS FLOOR AREA 130,200 SF

CONSTRUCTION COST ESTIMATE

Sheet No. 22

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST			TOTAL COST
	01 FOUNDATIONS						
	B. New Construction within Property Line						
	012 Special Foundation Conditions						
	4,000 PSI concrete in mat foundation	CY	2,767	65	00		179,855
	Rebar	LB	200,000	0	40		80,000
	Cure, screed and protect surface of slab	SF	24,904	0	30		7,471
	Concrete hardener	SF	24,904	0	60		14,942
	Sumps and bases		Allow				10,000
	Underslab drainage		Allow				10,000
	Strengthen existing girders and columns		Allow				200,000
	TOTAL						502,268

CONSTRUCTION COST ESTIMATE Sheet No. 23

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OR CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION 02 SUBSTRUCTURE	UNIT	QUANTITY	UNIT COST						TOTAL COST
	B. New Construction within Property Line									
	022 Basement Excavation									
	Basement Excavation and disposal	CY	47,196	5	00					225,980
	Backfill with compacted granular fill	CY	28,236	12	00					338,832
	Continuous sheet piling: pull and salvage	SF	17,928	11	00					197,208
	Dewatering		Allow							20,000
	TOTAL									782,020

THE CITY OF BOSTON

CONSTRUCTION COST ESTIMATE Sheet No. 24

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST			TOTAL COST
	02 SUBSTRUCTURE						
	B. New Construction within Property Line						
	023 - Basement Walls						
	12" Cup concrete wall: rebar; formwork both sides; bituminous waterproofing	SF	5,976	17	00		101,592
	Clean and prepare existing basement walls		Allow				20,000
	TOTAL						121,592

CONSTRUCTION COST ESTIMATE

Sheet No. 25

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION 03 SUPERSTRUCTURE	UNIT	QUANTITY	UNIT COST	TOTAL COST
	B. New Construction within Property Line				
	031/032 - Floor/Roof Construction				
	Structural steel framing	SF	95,100	11 90	1,131,690
	Structural steel roof framing	SF	35,100	9 00	315,900
	Metal deck concrete fill to floor and roof	SF	130,200	4 00	520,800
	Spray fireproofing to structural steel		Allow		200,000
	Grand lobby arches		Allow		50,000
	TOTAL				2,218,390

CONSTRUCTION COST ESTIMATE

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION 03 SUPERSTRUCTURE	UNIT	QUANTITY	UNIT COST						TOTAL COST
	B. New Construction within Property Line									
	033 - Stair Construction									
	Steel pan concrete fill stairs; floor to floor; landings	EA	2	5,000	00					10,000
	Grand Lobby stairs		Allow							50,000
	TOTAL									60,000

CONSTRUCTION COST ESTIMATE

Sheet No. 27

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OR CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION 04 EXTERIOR CLOSURE	UNIT	QUANTITY	UNIT COST		TOTAL COST
	B. New Construction within Property Line					
	Glass curtain wall system	SF	47,008	50	00	2,350,400
	Fully glazed main entrance doors	PR	5	10,000	00	50,000
	Exterior soffits	SF	6,144	6	00	36,864
	Entrance canopy		Allow			30,000
	TOTAL					2,467,264

CONSTRUCTION COST ESTIMATE Sheet No. 28

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST		TOTAL COST
	05 ROOFING					
	B. New Construction within Property Line					
	IRMA roofing system	SF	35,100	7	00	245,700
	Architectural roof treatment		Allow			100,000
	TOTAL					345,700

CONSTRUCTION COST ESTIMATE

Sheet No. 30

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST					TOTAL COST
	06 INTERIOR CONSTRUCTION								
	B. New Construction within Property Line								
	062 - Interior Finishes								
	Interior Finishes to:								
	Meeting space	SF	62,000	8	00				496,000
	Prefunction and circulation space	SF	68,200	35	00				2,387,000
	TOTAL								2,883,000

CONSTRUCTION COST ESTIMATE

Sheet No. 31

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST					TOTAL COST
	06 INTERIOR CONSTRUCTION								
	B. New Construction within Property Line								
	063 - Specialties								
	Specialties to:								
	Meeting space	SF	62,000	2	00				124,000
	Prefunction and Circulation space	SF	68,200	5	00				341,000
	TOTAL								465,000

THE CITY OF BOSTON

CONSTRUCTION COST ESTIMATE Sheet No. 32

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST			TOTAL COST
	07 CONVEYING SYSTEMS						
	B. New Construction within Property Line						
	Escalators	EA	4				400,000
	4,000 lb capacity geared passenger elevator; 350 FPM; 3 stop	EA	1				80,000
	TOTAL						480,000

CONSTRUCTION COST ESTIMATE Sheet No.. 33

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST			TOTAL COST
	B. New Construction within Property Line						
	Mechanical Summary						
	Plumbing						120,750
	Fire Protection						126,500
	HVAC						718,750
	TOTAL MECHANICAL						966,000

CONSTRUCTION COST ESTIMATE

Sheet No. 34

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
	B. New Construction within Property Line				
	Plumbing				
	Fixtures	EA	50	500	25,000
	Piping	LS			50,000
	Storm Sewer	LS			30,000
	Subtotal				105,000
	Overhead & Profit 15%				15,750
	TOTAL PLUMBING				120,750

CONSTRUCTION COST ESTIMATE

Sheet No. 35

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST					TOTAL COST
	B. New Construction within Property Line								
	Fire Protection								
	Sprinkler Heads	EA	600	175					105,000
	Fire Hose Cabinets	EA	10	500					5,000
	Subtotal								110,000
	Overhead & Profit 15%								16,500
	TOTAL FIRE PROTECTION								126,500

CONSTRUCTION COST ESTIMATE

Sheet No. 36

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
	B. New Construction within Property Line				
	HVAC				
	Piping	LS			150,000
	A.H. Equipment	LS			100,000
	Terminal Equipment	LS			25,000
	Air Distribution Sheet Metal will all acces.	LS			300,000
	Auto. Temp. Controls	LS			50,000
	Subtotal				625,000
	Overhead & Profit 15%				93,750
	TOTAL	HVAC			718,750

CONSTRUCTION COST ESTIMATE

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
	B. New Construction within				
	Property Line				
	Power & Distribution	LS			250,000
	Lighting System	LS			90,000
	Phone System	LS			20,000
	Fire Alarm	LS			40,000
	Radio & TV System	LS			5,000
	Clock System	LS			12,000
	Sound Paging System	LS			18,000
	Wireless Paging System	LS			12,000
	Intrusion Alarm & Video System	LS			50,000
	Exterior Door Intercom System	LS			3,000
	TOTAL				500,000

THE CITY OF BOSTON

CONSTRUCTION COST ESTIMATE Sheet No. 38

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST					TOTAL COST
	12 - SITEWORK								
	B. New Construction within Property Line								
	121 - Site Preparation								
	Break up and remove paving and sidewalks	SF	25,000	2	50				62,500
	TOTAL								62,500

Cost Analysis

New Construction In Front of Commercial Block C

Project: NEW CONSTRUCTION IN FRONT OF COMMERCIAL BLOCK "C"

Cost Plan/Cost Check No:
Date: FEBRUARY 18, 1983

Sheet No: 39

Uniformat Element	Amount $	Total Cost $	Rate $/SF Floor Area	%	Comments
01 — Foundations					
011 — Standard foundations					
012 — Special foundation conditions					
02 — Substructure					
021 — Slab on grade					
022 — Basement excavation					
023 — Basement walls					
03 — Superstructure		1,747,000	22.03		
031 — Floor construction)	1,672,000				
032 — Roof construction)					
033 — Stair construction	75,000				
04 — Exterior closure		1,300,000	16.39		
041 — Exterior walls)	1,300,000				
042 — Exterior doors and windows)					
05 — Roofing		171,000	2.16		
06 — Interior construction		3,966,000			
061 — Partitions	793,000				
062 — Interior finishes	2,776,000				
063 — Specialties	397,000				
07 — Conveying systems		780,000	9.84		
08 — Mechanical		437,000	5.51		
081 — Plumbing	69,000				
082 — HVAC	285,000				
083 — Fire protection	83,000				
084 — Special mechanical systems					

Project: NEW CONSTRUCTION IN FRONT OF COMMERCIAL BLOCK "C"

Cost Plan/Cost Check No:

Date: FEBRUARY 18, 1983

Sheet No: 40

Uniformat Element	Amount $	Total Cost $	Rate $/SF Floor Area	%	Comments
09 — Electrical		1,750,000	22.07		
091 — Service and distribution)					
092 — Lighting and power)	1,750,000				
093 — Special electrical systems)					
10 — General conditions and profit		943,000	11.89		
Net Building Cost		11,094,000	139.90		
11 — Equipment					
111 — Fixed and movable equipment					
112 — Furnishings					
113— Special construction					
12 — Site work		231,000	2.91		
121 — Site preparation	231,000				
122 — Site improvements					
123 — Site utilities					
124 — Off-site work					
13 — Contingencies		1,133,000	14.29		
131 — Design 10%	1,133,000				
132 — Escalation					
133 — Construction					
TOTAL ESTIMATED CONSTRUCTION COST, FEBRUARY 1983		$ 12,458,000	$ 157.10		GROSS FLOOR AREA 79,300 SF

THE CITY OF BOSTON

CONSTRUCTION COST ESTIMATE

Sheet No. 41

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
	03 SUPERSTRUCTURE				
	C. New Construction in Front of Commercial Block "C"				
	031/032 - Floor/Roof Construction				
	Structural steel floor framing	SF	79,300	11 90	943,670
	Structural steel roof framing	SF	20,100	9 00	180,900
	Metal deck concrete fill to floor and roof	SF	99,400	4 00	397,600
	Spray fireproofing to structural steel		Allow		150,000
	TOTAL				1,672,170

CONSTRUCTION COST ESTIMATE Sheet No. 42

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION 03 SUPERSTRUCTURE	UNIT	QUANTITY	UNIT COST						TOTAL COST
	C. New Construction in Front of Commercial Block "C"									
	033 - Stair Construction Steel pan concrete fill stairs; floor to floor; landings	EA	9	5,000	00					45,000
	Spiral stairway structure		Allow							30,000
	TOTAL									75,000

THE CITY OF BOSTON

CONSTRUCTION COST ESTIMATE Sheet No. 43

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST			TOTAL COST
	04 EXTERIOR CLOSURE						
	C. New Construction in Front of Commercial Block "C"						
	Glass curtain wall sys.	SF	22,800	50	00		1,140,000
	Fully glazed main entrance doors	PR	12	10,000	00		120,000
	Exterior soffits	SF	6,7200	6	00		40,320
	TOTAL						1,300,320

CONSTRUCTION COST ESTIMATE Sheet No. 44

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
	05 ROOFING				
	C. New Construction in Front of Commercial Block "C"				
	IRMA Roofing System	SF	20,100	7 00	140,700
	Architectural roof treatment		Allow		30,000
	TOTAL				170,700

THE CITY OF BOSTON

CONSTRUCTION COST ESTIMATE

Sheet No. 45

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
	06 INTERIOR CONSTRUCTION				
	C. New Construction in Front of Commercial Block "C"				
	061 Partitions				
	Interior partitions and doors to:				
	Prefunction and circulation space	SF	79,300	10 00	793,000
	TOTAL				793,000

CONSTRUCTION COST ESTIMATE

Sheet No. 46

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST						TOTAL COST
	06 INTERIOR CONSTRUCTION									
	C. New Construction in Front of Commercial Block "C"									
	062 Interior Finishes									
	Interior finishes to:									
	Prefunction and circulation space	SF	79,300	35	00					2,775,500
	TOTAL									2,775,500

CONSTRUCTION COST ESTIMATE

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST					TOTAL COST
	06 INTERIOR CONSTRUCTION								
	C. New Construction in Front of Commercial Block "C"								
	063 Specialties								
	Specialties to: Prefunction and circulation space	SF	79,300	5	00				396,500
	TOTAL								396,500

CONSTRUCTION COST ESTIMATE

Sheet No. 48

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST					TOTAL COST
	07 CONVEYING SYSTEMS								
	C. New Construction in Front of Commercial Block "C"								
	Escalators	EA	6						600,000
	4,000 lb capacity geared passenger elevator; 350 FPM; 4 stop	EA	2						180,000
	TOTAL								780,000

THE CITY OF BOSTON

CONSTRUCTION COST ESTIMATE

Sheet No. 49

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST			TOTAL COST
	C. New Construction in Front of Commercial Block "C"						
	Mechanical Summary						
	Plumbing						69,000
	Fire Protection						83,375
	HVAC						285,200
	TOTAL MECHANICAL						437,575

THE CITY OF BOSTON

CONSTRUCTION COST ESTIMATE Sheet No. 50

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST						TOTAL COST
	C. New Construction in Front of Commercial Block "C"									
	Plumbing									
	Fixtures	EA	20	500						10,000
	Piping	LS								25,000
	Storm Sewer	LS								25,000
	Subtotal									60,000
	Overhead & Profit 15%									9,000
	TOTAL PLUMBING									69,000

CONSTRUCTION COST ESTIMATE

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
	C. New Construction in Front of Commercial Block "C"				
	Fire Protection				
	Sprinkler Heads	EA	400	175	70,000
	Fire Hose Cabinets	EA	5	500	2,500
	Subtotal				72,500
	Overhead & Profit 15%				10,875
	TOTAL FIRE PROTECTION				83,375

THE CITY OF BOSTON

CONSTRUCTION COST ESTIMATE Sheet No. 52

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST			TOTAL COST
	C. New Construction in Front of Commercial Block "C"						
	HVAC						
	Piping	LS					50,000
	Terminal Equipment	LS					3,000
	A.H. Equipment	LS					60,000
	Air Distribution Sheet Metal with all acces	LS					120,000
	Auto. Temp. Controls	LS					15,000
	Subtotal						248,000
	Overhead & Profit 15%						37,200
	TOTAL HVAC						285,200

CONSTRUCTION COST ESTIMATE Sheet No. 53

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST						TOTAL COST
	C. New Construction In									
	Front of Commercial									
	Block C									
	Main Electric Service									
	Including New Substation									
	& Site Elec.	LS								1,500,000
	Power Distribution	LS								90,000
	Lighting	LS								65,000
	Phone	LS								16,000
	Fire Alarm	LS								24,000
	Radio & CCTV System	LS								2,000
	Sound Paging	LS								12,000
	Wireless Paging	LS								8,000
	Intrusion Alarm & Video									
	System	LS								32,000
	Exterior Door Intercom	LS								1,000
	TOTAL									1,750,000

CONSTRUCTION COST ESTIMATE

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
	12 - SITEWORK				
	C. New Construction in Front of Commercial Block "C"				
	121 - Site Preparation				
	Breakup and remove paving and sidewalks	SF	12,000	2.50	30,000
	Breakup and remove underground parking garage structure	SF	20,100	10 00	201,000
	TOTAL				231,000

Cost Analysis

New Construction on Roof of Hynes

Project: NEW CONSTRUCTION ON ROOF OF HYNES

Cost Plan/Cost Check No:
Date: FEBRUARY 18, 1983

Sheet No: 55

Uniformat Element	Amount $	Total Cost $	Rate $/SF Floor Area	%	Comments
01 – Foundations					
011 – Standard foundations					
012 – Special foundation conditions					
02 – Substructure					
021 – Slab on grade					
022 – Basement excavation					
023 – Basement walls					
03 – Superstructure		1,682,000	29.82		
031 – Floor construction)	1,642,000				
032 – Roof construction)					
033 – Stair construction	40,000				
04 – Exterior closure		746,000	13.23		
041 – Exterior walls)	746,000				
042 – Exterior doors and windows)					
05 – Roofing		445,000	7.89		
06 – Interior construction		574,000	10.18		
061 – Partitions	162,000				
062 – Interior finishes	309,000				
063 – Specialties	103,000				
07 – Conveying systems		--	--		
08 – Mechanical		7,026,000	124.57		
081 – Plumbing	805,000				
082 – HVAC	5,790,000				
083 – Fire protection	431,000				
084 – Special mechanical systems					

U-2

Project: NEW CONSTRUCTION ON ROOF OF HYNES

Cost Plan/Cost Check No:

Date: FEBRUARY 18, 1983

Sheet No: 56

Uniformat Element	Amount $	Total Cost $	Rate $/SF Floor Area	%	Comments
09 — Electrical		714,000	12.66		
091 — Service and distribution) 092 — Lighting and power) 093 — Special electrical systems)	714,000				
10 — General conditions and profit		1,060,000	18.79		
Net Building Cost		12,247,000	217.15		
11 — Equipment					
111 — Fixed and movable equipment 112 — Furnishings 113— Special construction					
12 — Site work		564,000	10.00		
121 — Site preparation 122 — Site improvements 123 — Site utilities 124 — Off-site work	564,000				
13 — Contingencies		1,281,000	22.71		
131 — Design 10% 132 — Escalation 133 — Construction	1,281,000				
TOTAL ESTIMATED CONSTRUCTION COST - FEBRUARY 1983		$ 14,092,000	$ 249.86		GROSS FLOOR AREA 56,400 SF

CONSTRUCTION COST ESTIMATE

Sheet No. 57

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OR CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
	03 SUPERSTRUCTURE				
	D. New Construction on Roof of Hynes				
	031/032 - Floor/Roof Construction				
	Structural steel floor framing (El 74'-10")	SF	56,404	11 90	671,207
	Structural steel roof framing	SF	56,404	9 00	507,636
	Metal deck concrete fill to floor and roof	SF	112,808	4 00	451,232
	Spray fireproofing to structural steel		Allow		12,000
	TOTAL				1,642,075

CONSTRUCTION COST ESTIMATE

Sheet No. 58

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
	03 SUPERSTRUCTURE				
	D. New Construction on Roof of Hynes				
	033 Stair Construction				
	Stair Construction		Allow		40,000
	TOTAL				40,000

CONSTRUCTION COST ESTIMATE

Sheet No. 59

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
	04 EXTERIOR CLOSURE				
	D. New Construction on Roof of Hynes				
	Exterior wall treatments; masonry	SF	45,720	15 00	685,800
	Mechanical equipment enclosure	SF	6,000	10 00	60,000
	TOTAL				745,800

CONSTRUCTION COST ESTIMATE Sheet No. 60

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST					TOTAL COST
	05 ROOFING								
	D. New Construction on Roof of Hynes								
	IRMA roofing system	SF	56,404	7	00				394,828
	Architectural roof treatment		Allow						50,000
	TOTAL								444,828

THE CITY OF BOSTON

CONSTRUCTION COST ESTIMATE Sheet No. 61

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST					TOTAL COST
	06 INTERIOR CONSTRUCTION								
	D. New Construction on Roof of Hynes								
	061 Partitions								
	Interior partitions and doors to:								
	Meeting space	SF	11,000	5	00				55,000
	Exhibition space	SF	36,500	1	50				54,750
	Support space	SF	3,000	3	50				10,500
	Prefunction and circulation space	SF	5,900	7	00				41,300
	TOTAL								161,550

CONSTRUCTION COST ESTIMATE

Sheet No. 62

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION 06 INTERIOR CONSTRUCTION	UNIT	QUANTITY	UNIT COST					TOTAL COST
	D. New Construction on Roof of Hynes								
	062 Interior Finishes								
	Interior Finishes to:								
	Meeting space	SF	11,000	8	00				88,000
	Exhibition space	SF	36,500	2	50				91,250
	Support space	SF	3,000	4	00				12,000
	Prefunction and circulation space	SF	5,900	20	00				118,000
	TOTAL								309,250

CONSTRUCTION COST ESTIMATE

Sheet No. 63

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST					TOTAL COST
	063 INTERIOR CONSTRUCTION								
	D. New Construction on Roof of Hynes								
	063 Specialties								
	Specialties to:								
	Meeting space	SF	11,000	2	00				22,000
	Exhibition space	SF	36,500	1	50				54,750
	Support space	SF	3,000	0	75				2,250
	Prefunction and circulation space	SF	5,900	4	00				23,600
	TOTAL								102,600

CONSTRUCTION COST ESTIMATE

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
	D. New Construction on Roof of Hynes				
	Mechanical Summary				
	Plumbing				805,000
	Fire Protection				431,250
	HVAC				5,790,250
	TOTAL MECHANICAL				7,026,500

THE CITY OF BOSTON

CONSTRUCTION COST ESTIMATE Sheet No. 65

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
	D. New Construction on Roof of Hynes				
	Plumbing				
	Fixtures	EA	200	500	100,000
	Piping	LS			500,000
	Storm Sewer	LS			100,000
	Subtotal				700,000
	Overhead & Profit 15%				105,000
	TOTAL PLUMBING				805,000

CONSTRUCTION COST ESTIMATE Sheet No. 66

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
	D. New Construction on Roof of Hynes				
	Fire Protection				
	Sprinkler Heads	EA	2,000	175	350,000
	Fire Hose Cabinets	EA	50	500	25,000
	Subtotal				375,000
	Overhead & Profit 15%				56,250
	TOTAL FIRE PROTECTION				431,250

CONSTRUCTION COST ESTIMATE Sheet No. 67

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST					TOTAL COST
	D. New Construction on Roof of Hynes								
	HVAC								
	Piping	LS							750,000
	Terminal Equipment	LS							100,000
	A.H. Equipment	LS							750,000
	Air Distribution Sheet Metal with all acces.	LS							2,000,000
	Cooling Towers	LS							200,000
	Chillers	LS							600,000
	Pumps	LS							100,000
	Auto. Temp. Control	LS							500,000
	Air & Water Balance	LS							35,000
	Subtotal								5,035,000
	Overhead & Profit 15%								755,250
	TOTAL HVAC								5,790,250

CONSTRUCTION COST ESTIMATE

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
	D. New Construction on Roof of Hynes				
	Power & Distribution	LS			200,000
	Lighting	LS			160,000
	Phone	LS			15,000
	Fire Alarm	LS			40,000
	Radio & TV System	LS			3,000
	Clock System	LS			16,000
	Sound Paging	LS			24,000
	Wireless Paging	LS			16,000
	Intrusion Alarm & Video	LS			50,000
	EM. Generator & Synchro Equipment	LS			190,000
	TOTAL				714,000

CONSTRUCTION COST ESTIMATE

Sheet No. 69

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
	12 SITEWORK				
	D. New Construction on Roof of Hynes				
	121 Site Preparation				
	Remove roof decking and structural steel roof framing	SF	56,404	10 00	564,040
	TOTAL				564,040

Cost Analysis

Demolition & New Construction In Commercial Block C & West Court

Project: DEMOLITION AND NEW CONSTRUCTION IN COMMERCIAL BLOCK "C" AND WEST COURT

Cost Plan/Cost Check No:

Date: FEBRUARY 18, 1983

Sheet No: 70

Uniformat Element	Amount $	Total Cost $	Rate $/SF Floor Area	%	Comments
01 – Foundations					
011 – Standard foundations					
012 – Special foundation conditions					
02 – Substructure					
021 – Slab on grade					
022 – Basement excavation					
023 – Basement walls					
03 – Superstructure		2,214,000	27.74		
031 – Floor construction)	2,188,000				
032 – Roof construction)					
033 – Stair construction	26,000				
04 – Exterior closure		1,956,000	24.51		
041 – Exterior walls)	1,956,000				
042 – Exterior doors and windows)					
05 – Roofing		407,000	5.10		
06 – Interior construction		2,555,000	32.02		
061 – Partitions	593,000				
062 – Interior finishes	1,686,000				
063 – Specialties	276,000				
07 – Conveying systems		200,000	2.51		
08 – Mechanical		1,657,000	20.76		
081 – Plumbing	164,000				
082 – HVAC	1,351,000				
083 – Fire protection	142,000				
084 – Special mechanical systems					

Project: DEMOLITION AND NEW CONSTRUCTION IN COMMERCIAL BLOCK "C" AND WEST COURT

Cost Plan/Cost Check No:

Date: FEBRUARY 18, 1983

Sheet No: 71

Uniformat Element	Amount $	Total Cost $	Rate $/SF Floor Area	%	Comments
09 — Electrical		1,126,000	14.11		
091 — Service and distribution)					
092 — Lighting and power)	1,126,000				
093 — Special electrical systems)					
10 — General conditions and profit		947,000	11.87		
Net Building Cost		11,062,000	138.62		
11 — Equipment					
111 — Fixed and movable equipment					
112 — Furnishings					
113— Special construction					
12 — Site work		365,000	4.57		
121 — Site preparation	365,000				
122 — Site improvements					
123 — Site utilities					
124 — Off-site work					
13 — Contingencies		1,143,000	14.32		
131 — Design 10%	1,143,000				
132 — Escalation					
133 — Construction					
TOTAL ESTIMATED CONSTRUCTION COST, FEBRUARY 1983		$ 12,570,000	$157.52		GROSS FLOOR AREA 79,800 SF

THE CITY OF BOSTON

CONSTRUCTION COST ESTIMATE

Sheet No. 72

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
	03 SUPERSTRUCTURE				
	E. Demolition and New Construction in Commercial Block "C" and West Court				
	031/032 - Floor/Roof Construction				
	Structural steel floor framing	SF	79,800	11 90	949,620
	Structural steel roof framing	SF	43,800	9 00	394,200
	Additional steel in framing over turnpike		Allow		150,000
	Metal deck concrete fill to floor and roof	SF	123,600	4 00	494,400
	Spray fireproofing to structural steel		Allow		200,000
	TOTAL				2,188,220

THE CITY OF BOSTON

CONSTRUCTION COST ESTIMATE Sheet No. 73

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION 03 SUPERSTRUCTURE	UNIT	QUANTITY	UNIT COST	TOTAL COST
E	Demolition and New Construction in Commercial Block "C" and West Court				
	033 - Stair Construction				
	Steel pan concrete fill stairs; floor to floor; landings	EA	2	8,000 00	16,000
	Miscellaneous Stairs		Allow		10,000
	TOTAL				26,000

THE CITY OF BOSTON

CONSTRUCTION COST ESTIMATE

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST					TOTAL COST
	04 EXTERIOR CLOSURE								
	E Demolition and New Construction in Commercial Block "C" and West Court								
	Glass curtain wall sys	SF	37,184	50	00				1,859,200
	Fully glazed main entrance doors	EA	6	10000	00				60,000
	Exterior soffits	SF	6,144	6	00				36,864
	TOTAL								1,956,064

THE CITY OF BOSTON

CONSTRUCTION COST ESTIMATE

Sheet No. 75

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
	05 ROOFING				
	E. Demolition and New Construction in Commercial Block "C" and West Court				
	IRMA roofing system	SF	43,800	7 00	306,600
	Architectural roof treatment		Allow		100,000
	TOTAL				406,600

THE CITY OF BOSTON

CONSTRUCTION COST ESTIMATE Sheet No. 76

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION 06 INTERIOR CONSTRUCTION	UNIT	QUANTITY	UNIT COST					TOTAL COST
	E. Demolition and New Construction in Commercial Block "C" and West Court								
	061 - Partitions								
	Interior Partitions and doors to								
	Meeting space	SF	41,000	5	00				205,000
	Prefunction and circulation space	SF	38,800	10	00				388,000
	TOTAL								593,000

THE CITY OF BOSTON

CONSTRUCTION COST ESTIMATE Sheet No. 77

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST					TOTAL COST
	E. Demolition and New Construction in Commercial Block "C" and West Court								
	062 - Interior Finishes								
	Interior finishes to:								
	Meeting space	SF	41,000	8	00				328,000
	Prefunction and circulation space	SF	38,800	35	00				1,358,000
	TOTAL								1,686,000

THE CITY OF BOSTON

CONSTRUCTION COST ESTIMATE Sheet No. 78

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST						TOTAL COST
	06 INTERIOR CONSTRUCTION									
	E. Demolition and New Construction in Commercial Block "C" and West Court									
	063 Specialties									
	Specialties to:									
	Meeting space	SF	41,000	2	00					82,000
	Prefunction and circulation space	SF	38,800	5	00					194,000
	TOTAL									276,000

THE CITY OF BOSTON

CONSTRUCTION COST ESTIMATE Sheet No. 79

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION 07 CONVEYING SYSTEMS	UNIT	QUANTITY	UNIT COST	TOTAL COST
	F. Demolition and New Construction in Commercial Block "C" and West Court				
	Escalators	EA	2		200,000
	TOTAL				200,000

THE CITY OF BOSTON

CONSTRUCTION COST ESTIMATE Sheet No. 80

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST			TOTAL COST
	E. Demolition and New Construction in Commercial Blocks C & West Court						
	Mechanical Summary						
	Plumbing						163,875
	Fire Protection						142,025
	HVAC						1,351,250
	TOTAL MECHANICAL						1,657,150

THE CITY OF BOSTON

CONSTRUCTION COST ESTIMATE Sheet No. 81

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
	E. Demolition and New Construction in Commercial Blocks C & West Court				
	Plumbing				
	Fixtures	EA	75	500	37,500
	Piping	LS			75,000
	Storm Sewer	LS			30,000
	Subtotal				142,500
	Overhead & Profit 15%				21,375
	TOTAL PLUMBING				163,875

THE CITY OF BOSTON

CONSTRUCTION COST ESTIMATE Sheet No. 82

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST						TOTAL COST
	E. Demolition and New Construction in Commercial Blocks C & West Court									
	Fire Protection									
	Sprinkler Heads	EA	620	175						108,500
	Fire Hose Cabinets	EA	30	500						15,000
	Subtotal									123,500
	Overhead & Profit 15%									18,525
	TOTAL FIRE PROTECTION									142,025

THE CITY OF BOSTON

CONSTRUCTION COST ESTIMATE Sheet No. 83

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST					TOTAL COST
	E. Demolition and New Construction in Commercial Blocks C & West Court								
	HVAC								
	Piping	LS							150,000
	Terminal Equipment	LS							25,000
	A.H. Equipment	LS							100,000
	Air Distribution Sheet Metal with all acces.	LS							700,000
	Auto. Temp. Controls	LS							200,000
	Subtotal								1,175,000
	Overhead & Profit 15%								176,250
	TOTAL HVAC								1,351,250

CONSTRUCTION COST ESTIMATE Sheet No.. 84

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
	E. Demolition and New Construction in Comm. Block C & West Court				
	Power & Distribution	LS			480,000
	Lighting	LS			220,000
	Phone	LS			48,000
	Fire Alarm	LS			72,000
	Radio & TV System	LS			4,000
	Clock System	LS			24,000
	Sound Paging	LS			30,000
	Wireless Paging	LS			25,000
	Intrusion Alarm & Video System w/ Command Control System	LS			220,000
	Exterior Door Intercom System	LS			3,000
	TOTAL				1,126,000

THE CITY OF BOSTON

CONSTRUCTION COST ESTIMATE

Sheet No. 85

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
	12 SITEWORK				
E	Demolition and New Construction in Commercial Block "C" and West Court				
	121 Site Preparation				
	Demolish retail stores in commercial Block C	SF	36,000	5 00	180,000
	Demolish elevated West Court plaza	SF	18,500	10 00	185,000
	TOTAL				365,000

Cost Analysis

General Conditions & Profit

THE CITY OF BOSTON

CONSTRUCTION COST ESTIMATE

Sheet No. 86

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
	GENERAL CONDITIONS, OVERHEAD AND PROFIT				
	SUMMARY				
	General Conditions				3,104,000
	Overhead and Profit				2,988,000
	TOTAL (Prorated to eacn component of work)				6,092,000

THE CITY OF BOSTON

CONSTRUCTION COST ESTIMATE Sheet No. 87

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION GENERAL CONDITIONS	UNIT	QUANTITY	UNIT COST					TOTAL COST
	SUPERVISION:								
	Superintendent	MOS	27	7000	00				189,000
	Assistant Superintendent	MOS	27	4000	00				108,000
	Project Manager	MOS	27	6000	00				162,000
	Assistant Project Manager	MOS	27	4000	00				108,000
	Layout and survey crew	MOS	15	8000	00				120,000
	Scheduler	MOS	27	4000	00				108,000
	Safety Inspector	MOS	27	4000	00				108,000
	Office Clerks and Secretary (3 people)	MOS	27	6000	00				162,000
	Timekeeper	MOS	27	3000	00				81,000
	Delivery Clerk	MOS	27	3000	00				81,000
	Security (2 people)	MOS	27	8000	00				216,000
	TOTAL								

THE CITY OF BOSTON

CONSTRUCTION COST ESTIMATE

Sheet No. 88

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST						TOTAL COST
	GENERAL CONDITIONS									
	TEMPORARY FACILITIES:									
	Office trailers (2 ea)	MOS	27	1200	00					32,000
	Storage trailers (2 ea)	MOS	27	2000	00					54,000
	Hoardings and barriers	MOS	27	1000	00					40,000
	Heat, light, a/c/telephone	MOS	27	1000	00					27,000
	Construction water and power	MOS	27	1000	00					27,000
	Winter heating	MOS	14	3000	00					42,000
	EQUIPMENT:									
	Hoists (2 ea)	MOS	27	1600	00					43,000
	Crane - materials handling	MOS	27	5000	00					135,000
	Forklifts	MOS	27	500	00					14,000
	Cars (2 ea)	MOS	27	200	00					5,000
	Pickups (2 ea)	MOS	27	300	00					8,000
	Small tools	MOS	27	500	00					14,000
	Cleanup interim	MOS	27	1100	00					30,000
	Cleanup final	LS	1							50,000
	Bond ½%									400,000
	Insurance 3/4%									600,000
	Permits and Fees 1/10%									80,000
	Photographs, CPM submittals	LS	1							60,000
	TOTAL TO SUMMARY									3,104,000

THE CITY OF BOSTON

CONSTRUCTION COST ESTIMATE Sheet No. 89

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST		TOTAL COST
	OVERHEAD AND PROFIT					
	Main office overhead and general contractor fee:					2,988,000
	TOTAL TO SUMMARY					2,988,000

Cost Analysis

Escalation

CONSTRUCTION COST ESTIMATE

Sheet No. 90

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
	F. Escalation				
	Construction Period = 27 months				
	Start: November 1, 1983				
	Midpoint: December 15, 1984				
	Assume prices good for six months				
	Escalation: August 15, 1983				
	= December 15, 1984				
	= 16 mos @ 10% p.a.				
	= 13.3% of $76,031,000				10,112,000
	TOTAL				10,112,000

Cost Analysis

Phasing Premium

CONSTRUCTION COST ESTIMATE

Sheet No. 91

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST						TOTAL COST
	G. Phasing Premium									
	Summary									
	Architectural/Structural									300,000
	Mechanical									500,000
	Electrical									1,556,000
	General Conditions									812,000
	Escalation									3,802,000
	TOTAL									6,970,000

THE CITY OF BOSTON

CONSTRUCTION COST ESTIMATE Sheet No. 92

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST					TOTAL COST
	G. Phasing Premium								
	Architectural/Structural								
	Phase I								100,000
	Phase II								70,000
	Phase III								130,000
	TOTAL								300,000

THE CITY OF BOSTON

CONSTRUCTION COST ESTIMATE Sheet No. 93

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION MECHANICAL	UNIT	QUANTITY	UNIT COST			TOTAL COST
	G. Phasing Premium						
	Phase I	LS					150,000
	Phase II	LS					100,000
	Phase III	LS					250,000
	TOTAL MECHANICAL						500,000

THE CITY OF BOSTON

CONSTRUCTION COST ESTIMATE Sheet No. 94

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
	ELECTRICAL				
	G. Phasing Premium				
	Considering that the main power system will be completely shut down and since usable areas within the building will remain action a temporary service is required to furnish electric power.				
	Temporary Service	LS			800,000
	Since the Building will remain in use during construction, overtime or shift work will have to be performed. Use 10% of elements A-E (7,560,000)				
	Overtime & Shift Work	LS			756,000
	TOTAL				1,556,000

CONSTRUCTION COST ESTIMATE Sheet No. 95

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST			TOTAL COST
	G. PHASING PREMIUM						
	General Conditions						
	39-month contract period						3,916,000
	Deduct 27-month contract period						(3.104,000)
	TOTAL						812,000

CONSTRUCTION COST ESTIMATE Sheet No. 96

PROJECT: HYNES AUDITORIUM EXPANSION
PROJECT LOCATION: BOSTON, MA.
ARCHITECT: KALLMANN, McKINNELL, WOOD
TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:
ESTIMATED BY: HANSCOMB ASSOCIATES INC
GROSS AREA S.F. 701,500
Budget X
Prelim
Final
DATE: FEBRUARY 18, 1983
VOLUME C.F.

LINE NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST					TOTAL COST
	G. Phasing Premium								
	Escalation:								
	Construction period increased by 12 months								
	Midpoint: June 15, 1984								
	Escalation:								
	22 mos @ 10% p.a.								
	= 18.3% £. 76,031,000								13,914,000
	Deduct: Escalation for 27 month construction period								(10,112,000)
	TOTAL								3,802,000

Cost Analysis

Furniture, Fixtures & Equipment

CONSTRUCTION COST ESTIMATE

Sheet No. 97

PROJECT: HYNES AUDITORIUM EXPANSION

PROJECT LOCATION: BOSTON, MA.

ARCHITECT: KALLMANN, McKINNELL, WOOD

TYPE OF CONSTRUCTION: NEW: X RENOV: X ALT:

ESTIMATED BY: HANSCOMB ASSOCIATES INC

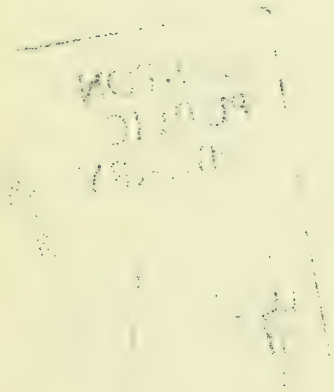
GROSS AREA S.F. 701,500

Budget X
Prelim
Final

DATE: FEBRUARY 18, 1983

VOLUME C.F.

LINE NO.	ITEM DESCRIPTION Furniture, Fixtures & Equip.	UNIT	QUANTITY	UNIT COST						TOTAL COST
	Lobby									275,000
	Meeting Rooms									914,000
	Administration									169,000
	Operations									435,000
	First Aid									17,000
	Exhibition									1,107,000
	Kitchen									900,000
	Contingency									200,000
	Subtotal									4,017,000
	Escalation									735,000
	TOTAL									4,752,000



HYNES AUDITORIUM EXPANSION
BOSTON, MASSACHUSETTS

Final Report (Volume IV)
Additional Investigations – Proposals

CITY OF BOSTON
Kevin H. White, Mayor

BOSTON REDEVELOPMENT AUTHORITY
Robert J. Ryan, Director

PUBLIC FACILITIES DEPARTMENT
Donald B. Manson, Director

INTRODUCTION:

The following investigation proposals have been incorported into the Final Report at the request of the Boston Redevelopment Authority. Of paramount importance to the Design Development process, the consultants have recommended that this investigatory work be carried out as soon as possible.

Additional Investigations – Proposals

Soils & Piles

Haley & Aldrich, Inc.

SCOPE OF WORK AND ESTIMATE OF PROBABLE COST - ADDITIONAL INVESTIGATIONS

As discussed in Section C, "Options and Recommendations", additional investigations were recommended in order to provide information necessary to develop final project design. The scope of work and estimated probable cost for each of the additional investigations are summarized below. For convenience, the estimated costs for H&A services and for Contractors have been shown separately.

The estimated Contractor cost ranges are very preliminary since specific locations and details have not been identified. The work must be performed by qualified, specialty contractors.

Of particular importance to the development of the proposed project are items 1 and 2 discussed below. It is, therefore, recommended that these additional investigations be carried out as soon as possible.

HALEY & ALDRICH, INC.
CAMBRIDGE, MASSACHUSETTS

WORK TASK DESCRIPTION	ESTIMATED COSTS H&A	ESTIMATED COSTS CONTRACTOR
1. REVIEW AND EVALUATION OF THE LOAD CAPACITIES OF EXISTING PILES		
A. Obtain and review installation records of piles installed in AREAS A-1, 2, E-1, 2, 5 (Re. Fig. 1, H&A Report)		
- With the aid of computer wave equation analyses, determine that piles were driven with enough energy and to required depth to achieve indicated design capacities.		
- Perform additional analyses with regard to allowable load increases on piles.		
- Preparation of memorandum presenting results of investigation.	$4,000	
(It has been determined that Metcalf & Eddy, Inc. have on file the installation records for piles in AREA A-1 and possibly A-2, E-1 and E-2. The records for piles in AREA E-5 have not been located to date.)		
B. Perform load tests on selected existing foundation piles.		
• Preparation of Test Pile Program		
- prepare contract documents (drawings and specifications) outlining the scope of proposed work for bidding purposes.		
- review contractor's submittals prior to testing program	$5,000	
• Field Testing		
- excavate a sheeted, dewatered test pit around selected pile(s) for installation of load test apparatus.		
- monitor pile load test, recording pertinent data.		
- evaluate recorded data and prepare an engineering report presenting the results.	$7,000	$100,000 to 180,000
(Assumes load tests on two separate piles) SUBTOTAL	$16,000	$100,000 to 180,000

2. REVIEW AND EVALUATE CONDITION OF EXISTING PILES

A. Review of cathodic protection/corrosion protection of piles

- Review foundation plans of existing structure for details of protection systems; make field inspections and check past performance.

- Review accumulated data and prepare brief memorandum outlining results of investigations $2,000

B. Excavate test pit(s), to assess condition of existing piles.

- Preparation of Test Pit Program

  - prepare contract documents (drawings and specifications), outlining scope of proposed work for bidding purposes.

  - review contractor's submittals prior to test pit program $4,000

- Field Explorations

  - excavate sheeted, dewatered test pits around selected pile(s) for assessment of corrosion.

  - provide part-time monitoring of test pit excavation to record pertinent information including types and thicknesses of soils encountered, observed water levels, condition of exposed pile(s), including photographs.

  - evaluate recorded data and prepare a brief engineering report presenting the results. $6,000 $40,000 to 80,000

  (Assume two pits, in addition to pits for test piles.) SUBTOTAL $12,000 $40,000 to 80,000

3. TEST BORING PROGRAM

- Develop program and prepare contract documents (drawings and specifications) outlining scope of proposed work for bidding purposes.

- Assume 3 test borings, one of which would be drilled into the underlying rock stratum, with recovery of undisturbed samples of clay for laboratory testing.

- Full time monitoring of test boring program

- Evaluate data and prepare report presenting results of investigation and recommendations

	$14,000	$8,000
SUBTOTAL	$14,000	$8,000

HALEY & ALDRICH, INC.
CAMBRIDGE, MASSACHUSETTS

4. REVIEW AND EVALUATION OF THE IMPACT OF PROPOSED CONSTRUCTION ON THE ADJACENT SUBWAY

- Obtain and review plans and drawings of the existing subway under Boylston Street to determine its lateral limits and depths.

- Review the proposed expansion schemes with regard to the location of the existing subway, with particular attention to the proposed foundation construction. $2,000

SUBTOTAL $2,000

Additional Investigations – Proposals

Energy Study

TMP Consulting Engineers, Inc.

TMP CONSULTING ENGINEERS, INC.

PROPOSAL FOR

HVAC SYSTEM ENERGY ANALYSIS

HYNES AUDITORIUM

EXPANSION and RENOVATION

INDEX

A. INTRODUCTION

Energy, operating and maintenance cost for the new Hynes Auditorium will be a major percentage of the overall facility expenses. Before committing to specific system design which will directly impact this expenditure, it is prudent to further investigate the elements that contribute to these ongoing costs. The time to conduct this investigation is now.
The majority of operating costs relate to building energy use and the response of the mechanical heating, ventilating and air conditioning systems to the operational requirements of the project. To properly evaluate the economic impact of space utilization and mechanical system selection requires that a computerized energy simulation analysis be conducted. This study will give the Owner the ability to review system selection from a number of energy efficient systems

A computerized energy analysis can be expected to identify energy efficient mechanical systems and operating strategies that will significantly reduce operating costs. The impact of capital dollar investments in conservation strategies can then be properly evaluated in terms of the life cycle costs that consider capital, energy and maintenance costs for these alternatives over the economic life of the project. An additional benefit of the energy study will be to yield cooling and heating load data that can be applied to economic sizing and selection of equipment for design point and part load evaluation.

This proposal outlines the capabilities of TMP Consulting Engineers to perform these analyses, the alternatives available and recommended for analyses, the methodology to be employed and the related costs to perform this work.

B. CAPABILITIES AND EXPERIENCE

TMP Consulting Engineers have been active participants in the development of effective computerized energy evaluation tools, including eleven years of research and development in computerized design, and through our membership in APEC (Automated Procedures for Engineering Consultants). One result of these efforts has been the successful release of the APEC ESP-II Building Energy Use Simulation Program. This computer program is unique in its ability to evaluate thermal storage and heat pump energy use strategies, and to output metered data that can be analyzed by applying local rate structures, in a special Utility Rate program developed by TMP.

TMP conducts extensive computerized studies of most projects it undertakes, to a level required by the Client. Some of the recent projects analyzed include:

	Project Size
World Financial Center, New York City	7,000,000 sq. ft.
One Commercial Plaza, Hartford, Conn.	600,000 sq. ft.
Dallas Main Center, Dallas, Texas	1,900,000 sq. ft.
One Financial Plaza, Springfield, Mass.	350,000 sq. ft.
Bank of Nove Scotia, Toronto, Ontatio, Canada	1,365,000 sq. ft.
CN Convention Centre, Toronto, Ontario, Canada	1,400,000 sq. ft.
Sunlife Assurance Company, Calgary, Alberta, Canada	285,000 sq. ft.
Tufts New England Medical Center, Boston, Mass. Biewend Building	122,000 sq. ft.

C. DESIGN ALTERNATIVES/STUDY METHODOLOGY

The basic study listed below as Option #1 will include investigation of capital vs. operating cost for the following systems that, in our judgement, are the most viable.

1) All Electric, Heating and Cooling

vs.

Electric Cooling, Steam Heating

Other alternatives that are less viable but that may warrant further investigation include:

2) All steam, heating and cooling.

3) Thermal storage (water) for electrical demand control and cost reduction in conjunction with reduced time-of-day utility rates.

   (a) Thermal storage requires considerable space. The ability to incorporate this space into the building structure or onto the site is not necessarily a possibility. We will first look at the size requirement. Then if this has potential we will do the actual thermal storage study.

4) Ice Storage:

   Alternate to thermal water storage because space requirements are considerably less.

5) Heat Pump Chillers:

   For recovery and storage of internal heat gains for day and night heating.

D. TERMS OF PROPOSAL

The reimbursement for consulting engineering services will be in accordance with the fee table shown on the following page, plus computer charges. As computer costs are subject to variations beyond our control, we must invoice these charges separately. For budget purposes, we include estimates of these charges. The base analysis includes for:

(1) assimilation of weather data.
(2) preparation of envelope response factors.
(3) development of thermal loads model, including space descriptions and profiles of occupancy and power requirements.
(4) development of systems model for base mechanical systems.
(5) analysis of output energy results.
(6) computation of applicable utility charges for projected energy use.
(7) life cycle cost analysis.

Prices are based on an eight week working schedule to precede beginning of Design Phase of working drawings. Premium for overtime, if report required earlier are not included and prices would have to be adjusted accordingly.

E. FEE PROPOSAL TABLE

	TMP Engineering Costs	Estimated Computer Costs	Other Consultant Costs	Total
Option #1				
Base Study Electric heating & cooling vs. electric cooling/steam heating	$ 17390	$ 4170	$4000 (Arch'ural) $4500 (electrical) $1750 (plumbing)	$31810
Option #2				
Steam heating and cooling	$ 6500	$ 1000	$1500 (Electrical)	$ 9000
Option #3				
Thermal Storage	$ 4630	$ 1670	$3000 (Structural)	$ 9300
Option #4				
4a. Ice Storage	$ 3100	- - -	- - -	$ 3100
4b. Ice Storage	$ 5180	$ 1670	- - -	$ 6850
Option #5				
5a. Heat Pump Chiller	$ 3930	$ 1250	- - -	$ 5180
5b. Heat Pump Chiller	$ 6010	$ 2920	- - -	$ 8930

NOTES:

(1) Option 4a. and 5a. based on Option 3 also being done.

(2) Option 4b. and 5b. based on Option 3 not being done and. therefore, increase because base calculations necessary to these options are included in Option 3.